

Sklaney, Christopher

From: Adams, Frank <frank_adams@golder.com>
Sent: Tuesday, January 07, 2014 2:28 PM
To: Sklaney, Christopher
Cc: Smith, Larry; Mark DeVine (mdevine@wm.com)
Subject: RE: Keystone Sanitation Landfill - Performance Monitoring Report

Follow Up Flag: Follow up
Flag Status: Completed

Categories: Keystone

No problem Chris – Happy New Year.

Frank

Frank T. Adams, P.E. | Practice Leader | **Golder Associates Inc.**
200 Century Parkway, Suite C, Mt. Laurel, New Jersey, USA 08054
T: +1 (856) 793-2005 | **D:** +1 (856) 793-2005 Ext 34432 | **F:** +1 (856) 793-2006 | **C:** +1 (215) 570-3205 | **E:**
frank_adams@golder.com | www.golder.com

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From: Sklaney, Christopher [<mailto:sklaney.christopher@epa.gov>]
Sent: Tuesday, January 07, 2014 2:26 PM
To: Adams, Frank
Cc: Smith, Larry
Subject: FW: Keystone Sanitation Landfill - Performance Monitoring Report
Importance: Low

Frank – Hope you're having a good new year. Please see the request below.

Thanks – Chris

Christopher Sklaney
U.S. EPA Region 3
1650 Arch Street (3HS21)
Philadelphia, PA 19103
215-814-3198 | office

From: Smith, Larry [<mailto:larrysmit@pa.gov>]
Sent: Tuesday, January 07, 2014 1:01 PM

To: Sklaney, Christopher

Subject: Keystone Sanitation Landfill - Performance Monitoring Report

Importance: Low

Chris,

The Keystone Sanitation Landfill *Performance Monitoring Report* from Golder Associates should be copied to me. Currently, these reports are delivered to our office, but with the incorrect DEP personnel's name on the copy listing. Please ask that C. Snook be removed from the PADEP copy. It may also help in the delivery here at the office that in the cc section on the cover sheet that HSCA be added to the PADEP (e.g., cc: L. Smith PADEP-HSCA (1 copy)). Thanks for your help on this.

Larry B. Smith, P.G. | Licensed Professional Geologist

Department of Environmental Protection

Southcentral Regional Office

909 Elmerton Avenue | Harrisburg, PA 17110

Phone: 717.705.4842 | Fax: 717.705.4830

www.depweb.state.pa.us

Sklaney, Christopher

From: Adams, Frank <frank_adams@golder.com>
Sent: Wednesday, April 23, 2014 2:56 PM
To: Sklaney, Christopher
Cc: Mark DeVine (mdevine@wm.com); Huffman, Joseph
Subject: PROPOSED MEETING DATES FOR KEYSTONE LANDFILL ELGE SYSTEM
Attachments: 12.27.12 Sklaney Ltr LF Gas Extraction System Issues Keystone.pdf

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Subject: RE: PROPOSED MEETING DATES FOR KEYSTONE LANDFILL ELGE SYSTEM

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OK we will make it Wednesday May 14, 2014 at 1:30 pm at your office in Philadelphia.

Thanks,

Frank

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From: Devine, Mark <mdevine@wm.com>
Sent: Tuesday, April 29, 2014 10:45 AM
To: Sklaney, Christopher
Cc: Adams, Frank; Huffman, Joseph
Subject: RE: PROPOSED MEETING DATES FOR KEYSTONE LANDFILL ELGE SYSTEM

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Please confirm the 1:30 meeting time.

Thank you,

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From: Sklaney, Christopher
Sent: Wednesday, April 30, 2014 8:19 AM
To: Devine, Mark
Cc: Adams, Frank; Huffman, Joseph
Subject: RE: PROPOSED MEETING DATES FOR KEYSTONE LANDFILL ELGE SYSTEM

Mark – I've had a little switch in my schedule availability. I have an on-going removal action on a recently listed site that is occupying a lot of my time, and open dates for that week have switched a bit. The 14th now seems like it will be tough for me. However, the 15th now is wide open, and I can (will) make the 13th work if need be.

If you've already booked a flight, please don't change it. Again, the 14th is a day that I am needed and would greatly benefit me to be at the removal, but I will make do if you've already solidified plans.

Feel free to call me. I apologize if this causes any difficulties for you (or Frank and Joseph).

Chris

Christopher Sklaney
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Philadelphia, PA 19103
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From: Devine, Mark <mdevine@wm.com>
Sent: Wednesday, April 30, 2014 8:53 AM
To: Sklaney, Christopher
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Subject: Re: PROPOSED MEETING DATES FOR KEYSTONE LANDFILL ELGE SYSTEM

Follow Up Flag: Follow up
Flag Status: Completed

Chris:

Yes - flight has been booked for the 14th along with other meetings scheduled on the 15th.

Mark P. DeVine
Waste Management
(603) 929-5436 (O)
(603) 759-2529 (M)

On Apr 30, 2014, at 8:18 AM, "Sklaney, Christopher" <sklaney.christopher@epa.gov> wrote:

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Frank – Wednesday, May 14 is the only one of those three days that I am available. - Chris

From: Adams, Frank [mailto:frank_adams@golder.com]
Sent: Wednesday, April 23, 2014 2:56 PM
To: Sklaney, Christopher
Cc: Mark DeVine (mdevine@wm.com); Huffman, Joseph
Subject: PROPOSED MEETING DATES FOR KEYSTONE LANDFILL ELGE SYSTEM

Hi Chris – As a follow-up to our call yesterday morning, I spoke to Mark DeVine of Waste Management about potential dates for a meeting at your office to discuss the current status of the ELGE system at the Keystone Landfill. We propose to have an early afternoon meeting on either May 13, 14, or 15, say

around 1:30 pm. Please let us know if one of those dates works for you as soon as possible, so Mark can make his travel arrangements.

As discussed, we see the purpose of the meeting is as follows:

1. Review status of ELGE performance monitoring and potential to begin 8 quarters of sampling as required by the ROD.
2. To obtain closure on the outstanding items from the last (2010) 5-Year Review Report
3. Discuss recent Year 13 Annual Groundwater Monitoring Report from the OGDs

For your convenience, we have attached the December 27, 2012 letter from Waste Management requesting written confirmation from the USEPA that the issues in the 5-Year Review Report had been satisfactorily addressed.

We will wait to hear back from you regarding meeting dates.

Thanks,

Frank Adams

Frank T. Adams, P.E. | Practice Leader | Golder Associates Inc.
200 Century Parkway, Suite C, Mt. Laurel, New Jersey, USA 08054
T: +1 (856) 793-2005 | D: +1 (856) 793-2005 Ext 34432 | F: +1 (856) 793-2006 | C: +1 (215) 570-3205 |
E: frank_adams@golder.com | www.golder.com

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Please consider the environment before printing this email.

Sklaney, Christopher

From: Adams, Frank <frank_adams@golder.com>
Sent: Tuesday, June 03, 2014 1:23 PM
To: Sklaney, Christopher
Cc: Mark DeVine (mdevine@wm.com); Huffman, Joseph
Subject: NEXT ROUND OF ELGE SYSTEM MONITORING AT THE KEYSTONE LANDFILL

Follow Up Flag: Follow up
Flag Status: Completed

Categories: Keystone

Hi Chris:

It was a please meeting with you on May 14, 2014 to review the status of the ELGE system at Keystone. As discussed, we have scheduled the next round of ELGE sampling for next week which would count for the second quarter of ELGE sampling if we decide to continue with the 8 consecutive quarters of sampling required by the ROD to demonstrate compliance with the performance standards. If, based on the results of this next round, we decide not to continue with the 8 quarters and revert to the semi-annual frequency, this round would count for the second semi-annual round for 2014 (the first 2014 round was complete in January 2014 and you should be receiving that report soon). I recall from the meeting that we had concurrence from you on this approach. Please confirm that is your understanding.

We are preparing a more detailed summary of the points discussed during our May 14, 2014 meeting and hope to get that to you by the end of this week. We also recall that your were going to prepare a letter indicating that Waste Management has satisfied the remaining items from the 2010 Five-Year report as requested in the past.

Please call or write with any questions or concerns.

Best regards,

Frank

Frank T. Adams, P.E. | Practice Leader | Golder Associates Inc.
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T: +1 (856) 793-2005 | D: +1 (856) 793-2005 Ext 34432 | F: +1 (856) 793-2006 | C: +1 (215) 570-3205 | E:
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Please consider the environment before printing this email.

Sklaney, Christopher

From: Sklaney, Christopher
Sent: Wednesday, November 26, 2014 1:32 PM
To: Adams, Frank
Subject: Accepted: Keystone Landfill Site Visit for next 5-Year Review

Sklaney, Christopher

From: Devine, Mark <mdevine@wm.com>
Sent: Friday, July 31, 2015 8:43 AM
To: Sklaney, Christopher
Cc: Adams, Frank
Subject: Keystone - OGD Evaluation

Follow Up Flag: Follow up
Flag Status: Completed

Good Morning Chris:

As a follow-up to my voice message, Waste Management will definitely provide written comments to the OGD evaluation. Due to vacation schedules, I expect our response to be submitted towards the end of the week of August 17th.

In addition, we will also be submitting a supporting response to the draft ESD regarding the Spray Irrigation Area.

Mark

-----Original Message-----

From: Sklaney, Christopher [mailto:sklaney.christopher@epa.gov]
Sent: Thursday, July 23, 2015 8:06 AM
To: Devine, Mark
Subject: FW: Keystone- a follow up to our recent call

Mark - Good morning. I received the attached review from Jack early last month and am just getting around to taking a look at it.

I would be interested in WM's view of some of the OGDs' interpretations presented in the evaluation. Do you think you and/or Frank will have a chance to review and provide me some thoughts?

Thanks - Chris

Christopher Sklaney
Remedial Project Manager
U.S. EPA Region 3
Office of Superfund Site Remediation
1650 Arch Street (3HS21)
Philadelphia, PA 19103
215-814-3198 | office

-----Original Message-----

From: Jack McBurney [mailto:jackburn@demaximis.com]
Sent: Sunday, June 28, 2015 8:22 PM
To: Sklaney, Christopher
Subject: Keystone- a follow up to our recent call

Chris,

I met with the OGDs' representatives on June 25, 2015, and they agreed that you should send a copy of Environmental Standards' June 1, 2015 Assessment of the Protectiveness of the Site Remedy to Frank Adams and Mark DeVine, and request that they prepare comments on the Report.

I have attached a copy of the Report to this email for your convenience. In addition, the OGDs' representatives also endorsed your suggestion to schedule a meeting with the OGDs' technical representatives and Waste Management's technical representatives as soon as possible, while giving Frank and Mark time to prepare comments before the meeting.

We think that for any meeting to be productive, the O/O's need to be prepared to specifically address our growing concerns with the inadequacy of the landfill cover, and with their inability to find leachate at the monitoring points while needing to haul it away for disposal since its quantity is too great for the flare to handle.

Perhaps a sample of this condensate might be a simple first step to better understand why the groundwater contamination has not gotten any better for at least 5 years. This was certainly not the intent of the design basis of the ELGE remedy as described in the design documents.

The OGDs' technical representatives will be available to meet at EPA on August 25, 2015; however, we will be glad to arrange an earlier date.

Thanks for your attention to this important matter,

Jack

Sklaney, Christopher

From: Devine, Mark <mdevine@wm.com>
Sent: Tuesday, July 28, 2015 9:48 AM
To: Sklaney, Christopher
Cc: Adams, Frank
Subject: FW: Keystone FYR Issues
Attachments: Draft Fourth FYR Issues - Keystone.pdf; Re: FW: Keystone- field observations; Scanned from a Xerox multifunction device.pdf

Follow Up Flag: Follow up
Flag Status: Completed

Good Morning Chris:

Per your request – response to Draft FYR Issues:

- Gate in question used by OGDs – see attached email communication from Jack McBurney
- Metal debris and old equipment on landfill – This old equipment and debris was outside of cap area and cap enhancements; left on site by landfill owner (Noel). This spring, Noel commenced removal of equipment and debris. To avoid any issues, WM is in the process of repairing the ruts from the equipment removal and disposing of the remaining metal debris.
- Could not locate small fallen tree
- All wells and monitoring points associated with the ELGE system have been repaired.
- In lieu of condensate injection, LFG condensate is disposed off-site at Springettsbury Township POTW, York, PA. Condensate is transported by Young's Sanitary Septic Service, Dillsburg, PA. See letter with permit documentation to POTW.
- Additional information will be submitted to EPA shortly regarding the leachate monitoring points

I believe this addresses the Draft FYR issues associated with Waste Management and the ELGE system. I will follow-up with a call also.

Mark

From: Sklaney, Christopher [mailto:sklaney.christopher@epa.gov]
Sent: Monday, July 27, 2015 1:52 PM
To: Devine, Mark
Cc: Frank Adams
Subject: Keystone FYR Issues

Mark – We're getting ready to move the FYR along to the State and EPA HQ for their input, and I wanted to see if you had made any headway on the draft set of issues I forwarded on April 30 (attached again here). If any of the issues that were in WM's court have been resolved or will be resolved in the near future, let me know how and when the issues will be resolved. A brief description of the issues that can be handled in this manner in an e-mail would suffice. If I can remove such issues from the FYR – and I think there are one or two in the "general housekeeping" category - then it stays off HQ's radar and lessens our need to send letters back and forth afterward. Let me know what you plan to do with the issues that fall in WM's area of responsibility. Again – a brief e-mail response with the "hows" and "whens" is fine in this case, but I'd need it soon.

Thanks - Chris

Christopher Sklaney

Remedial Project Manager

U.S. EPA Region 3

Office of Superfund Site Remediation

1650 Arch Street (3HS21)

Philadelphia, PA 19103

215-814-3198 | office

Sklaney, Christopher

From: Devine, Mark <mdevine@wm.com>
Sent: Thursday, July 23, 2015 9:51 AM
To: Sklaney, Christopher
Subject: RE: Keystone- a follow up to our recent call

Follow Up Flag: Follow up
Flag Status: Completed

Chris:

Yes, I will get back to you with the expected timeframe for response and comment to the report.

Mark

-----Original Message-----

From: Sklaney, Christopher [mailto:sklaney.christopher@epa.gov]
Sent: Thursday, July 23, 2015 8:06 AM
To: Devine, Mark
Subject: FW: Keystone- a follow up to our recent call

Mark - Good morning. I received the attached review from Jack early last month and am just getting around to taking a look at it.

I would be interested in WM's view of some of the OGDs' interpretations presented in the evaluation. Do you think you and/or Frank will have a chance to review and provide me some thoughts?

Thanks - Chris

Christopher Sklaney
Remedial Project Manager
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Office of Superfund Site Remediation
1650 Arch Street (3HS21)
Philadelphia, PA 19103
215-814-3198 | office

-----Original Message-----

From: Jack McBurney [mailto:jackburn@demaximis.com]
Sent: Sunday, June 28, 2015 8:22 PM
To: Sklaney, Christopher
Subject: Keystone- a follow up to our recent call

Chris,

I met with the OGDs' representatives on June 25, 2015, and they agreed that you should send a copy of Environmental Standards' June 1, 2015 Assessment of the Protectiveness of the Site Remedy to Frank Adams and Mark DeVine, and request that they prepare comments on the Report.

I have attached a copy of the Report to this email for your convenience. In addition, the OGDs' representatives also endorsed your suggestion to schedule a meeting with the OGDs' technical representatives and Waste Management's technical representatives as soon as possible, while giving Frank and Mark time to prepare comments before the meeting.

We think that for any meeting to be productive, the O/O's need to be prepared to specifically address our growing concerns with the inadequacy of the landfill cover, and with their inability to find leachate at the monitoring points while needing to haul it away for disposal since its quantity is too great for the flare to handle. Perhaps a sample of this condensate might be a simple first step to better understand why the groundwater contamination has not gotten any better for at least 5 years. This was certainly not the intent of the design basis of the ELGE remedy as described in the design documents.

The OGDs' technical representatives will be available to meet at EPA on August 25, 2015; however, we will be glad to arrange an earlier date.

Thanks for your attention to this important matter,

Jack

Sklaney, Christopher

From: Adams, Frank <frank_adams@golder.com>
Sent: Thursday, August 20, 2015 4:04 PM
To: Sklaney, Christopher
Cc: Devine, Mark; Foster, Veronica
Subject: RE: Keystone - ESD for Public Comment
Attachments: ESD Support Letter 08-20-15.pdf

Follow Up Flag: Follow up
Flag Status: Completed

Categories: Keystone

Hi Chris – see attached letter submitted on behalf of Waste Management for the Proposed ESD for Keystone. I will call you to discuss.

Frank

Frank T. Adams, P.E. | Practice Leader | **Golder Associates Inc.**
200 Century Parkway, Suite C, Mt. Laurel, New Jersey, USA 08054
T: +1 (856) 793-2005 | D: +1 (856) 793-2005 Ext 34432 | F: +1 (856) 793-2006 | C: +1 (215) 570-3205 | E:
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Please consider the environment before printing this email.

From: Sklaney, Christopher [<mailto:sklaney.christopher@epa.gov>]
Sent: Tuesday, July 21, 2015 10:20 PM
To: Devine, Mark; Jack McBurney
Subject: Keystone - ESD for Public Comment

Jack/Mark –

Good evening. I'm sending this message to notify both of you that EPA released an ESD for public comment today. The document and remainder of the administrative record can be found at the following address:

<http://semspub.epa.gov/ar/docs/showcollections.jsf?faces-redirect=true&epaid=PAD054142781&state=PA®ion=03>

The comment period ends on August 20. Please don't hesitate to contact me with questions.

Thank you - Chris

Christopher Sklaney

Remedial Project Manager
U.S. EPA Region 3
Office of Superfund Site Remediation
1650 Arch Street (3HS21)
Philadelphia, PA 19103
215-814-3198 | office

Sklaney, Christopher

From: Adams, Frank <frank_adams@golder.com>
Sent: Monday, August 24, 2015 3:54 PM
To: Sklaney, Christopher
Cc: Devine, Mark; Huffman, Joseph
Subject: RE: Keystone - OGD Evaluation

Follow Up Flag: Follow up
Flag Status: Completed

Categories: Keystone

Hi Chris - Mark DeVine asked that I provide you an update on our response to the OGD's evaluation (Assessment of the Protectiveness of the Site Remedy, prepared by Environmental Standards, dated June 1, 2015). We are targeting submittal of our response by the end of next week (September 4, 2015).

Please call or write with any questions.

Frank Adams

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Please consider the environment before printing this email.

-----Original Message-----

From: Devine, Mark [mailto:mdevine@wm.com]
Sent: Friday, July 31, 2015 8:43 AM
To: Sklaney, Christopher
Cc: Adams, Frank
Subject: Keystone - OGD Evaluation

Good Morning Chris:

As a follow-up to my voice message, Waste Management will definitely provide written comments to the OGD evaluation. Due to vacation schedules, I expect our response to be submitted towards the end of the week of August 17th.

In addition, we will also be submitting a supporting response to the draft ESD regarding the Spray Irrigation Area.

Mark

-----Original Message-----

From: Sklaney, Christopher [mailto:sklaney.christopher@epa.gov]
Sent: Thursday, July 23, 2015 8:06 AM
To: Devine, Mark
Subject: FW: Keystone- a follow up to our recent call

Mark - Good morning. I received the attached review from Jack early last month and am just getting around to taking a look at it.

I would be interested in WM's view of some of the OGDs' interpretations presented in the evaluation. Do you think you and/or Frank will have a chance to review and provide me some thoughts?

Thanks - Chris

Christopher Sklaney
Remedial Project Manager
U.S. EPA Region 3
Office of Superfund Site Remediation
1650 Arch Street (3HS21)
Philadelphia, PA 19103
215-814-3198 | office

-----Original Message-----

From: Jack McBurney [mailto:jackburn@demaximis.com]
Sent: Sunday, June 28, 2015 8:22 PM
To: Sklaney, Christopher
Subject: Keystone- a follow up to our recent call

Chris,

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I have attached a copy of the Report to this email for your convenience. In addition, the OGDs' representatives also endorsed your suggestion to schedule a meeting with the OGDs' technical representatives and Waste Management's technical representatives as soon as possible, while giving Frank and Mark time to prepare comments before the meeting.

We think that for any meeting to be productive, the O/O's need to be prepared to specifically address our growing concerns with the inadequacy of the landfill cover, and with their inability to find leachate at the monitoring points while needing to haul it away for disposal since its quantity is too great for the flare to handle. Perhaps a sample of this condensate might be a simple first step to better understand why the groundwater contamination has not gotten any better for at least 5 years. This was certainly not the intent of the design basis of the ELGE remedy as described in the design documents.

The OGDs' technical representatives will be available to meet at EPA on August 25, 2015; however, we will be glad to arrange an earlier date.

Thanks for your attention to this important matter,

Jack

Sklaney, Christopher

From: Adams, Frank <frank_adams@golder.com>
Sent: Friday, September 11, 2015 4:18 PM
To: jackburn@demaximis.com
Cc: Mark DeVine (mdevine@wm.com); Sklaney, Christopher; Huffman, Joseph
Subject: RE: Keystone Landfill - a few questions on a recent ELGE report

Follow Up Flag: Follow up
Flag Status: Completed

Categories: Keystone

Hi Jack:

In response to your September 2, 2015 email inquiry on the flow rates measured at the wells and the flare, we have prepared the response below.

Measurement of gas flow rates at an individual landfill well is a rough qualitative estimate of the flow at that single extraction point, but it is much less precise than the measurement taken at the flare which through a flow meter. The measurement at the flare is a much better indication of the total gas flow being extracted from the landfill. The flow meter is calibrated on an annual basis (the manufacturer recommends at least every other year) and was most recently calibrated on July 28, 2015. While even measurement using a flow meter has some inherent imprecisions, this method is the most accurate estimate of the total gas flow being extracted from the well field to the flare.

Measurement of flow rates at individual wells is much less precise since there are no flow meters at the wells. The estimate of flow at a well is a qualitative assessment of the volume of flow at that location and these flow rates are used for reference only. The flow estimate at a well is made through the use of an orifice plate and measured vacuum, and is not designed to be absolute due to the thickness of the orifice plate, meter run on either side of the plate, and potential turbulence created by ports, plugs and thermometers. The disparity is most evident on low flow wells. It is used solely as a guide to the landfill operations technician in "adjusting" the well (i.e., increasing or decreasing the flow rate) which is dictated by the methane and balance gas percentages measured. A valve at the flare is adjusted to increase or decrease the flow in response to these measured gases. For example, if the methane content is decreasing significantly this is an indication that the vacuum on the well (and hence flow rate) is too high and is extracting the landfill gas faster than it is being generated by the decomposition process in the landfill (i.e., the demand is exceeding the supply produced naturally by the methanogenic bacteria). Also, if oxygen is detected in the gas the flow rate will be reduced to minimize the chance for air intrusion and development of aerobic conditions in the landfill which would inhibit the methanogenic process and could ultimately lead to a subsurface oxidation event (fire). Conversely if the gas is high in methane the flow rate can be adjusted upward to allow more gas to be extracted to more closely match the natural generation rate.

Fine tuning a well field like Keystone is as much an art based on experience than a science and all of these parameters which are measured contribute to informing the technician how to make adjustments during each monitoring event. The flow value which is the most accurate is that which is measured at the flare and is the number that should be used to evaluate the overall performance of the gas extraction system.

It should be pointed out that if you look at important data the average vacuum of the overall system is trending up, the methane quality is trending down, and the balance gas is trending up, which suggests that we are pulling harder on the field and creating stress which means that our radius of influence is increasing.

As noted in your comments below, several of the wells have very low flow values (reported near zero). In general, these wells are turned down because of the low quality of gas (low methane content and/or oxygen present) at times at these locations. The low quality of the gas at these locations will have a tendency to lower the overall

quality of gas of the system and may lead to flare outages due to insufficient methane, which shuts off the entire system. Therefore it is necessary to turn down the flow at those locations in an effort to keep the overall system running continuously and efficiently.

The performance criteria for the ELGE system, as presented in the 2000 ROD Amendment is based on a 90% reduction in the target VOCs at the ELGE monitoring probes. It is not based on performance of individual wells either from a methane content, flow rate, or VOC reduction at the wells. The performance at these monitoring probes is what determines the success of the ELGE system. Waste Management has continued to demonstrate measureable and consistent reductions in VOCs at the majority of ELGE system probes to the point that many of these probes have already exhibited the 90% reduction in concentrations for most of the VOCs being monitored. These probes are located between the wells. If the extraction system were not providing adequate coverage between these wells, there would be little if any noticeable reduction in the VOCs concentrations at these interior locations.

Please call or write with any additional questions.

Best regards,

Frank Adams

Frank T. Adams, P.E. | Practice Leader | Golder Associates Inc.
200 Century Parkway, Suite C, Mt. Laurel, New Jersey, USA 08054
T: +1 (856) 793-2005 | D: +1 (856) 793-2005 Ext 34432 | F: +1 (856) 793-2006 | C: +1 (215) 570-3205 | E:
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Please consider the environment before printing this email.

-----Original Message-----

From: Jack McBurney [mailto:JACKBURN@demaximis.com]
Sent: Wednesday, September 02, 2015 6:07 PM
To: Adams, Frank; Mark DeVine
Cc: Christopher Sklaney; Ken Swider
Subject: Keystone Landfill - a few questions on a recent ELGE report

Good afternoon Mark and Frank,

With an expectation that the OGDs and Waste may soon meet with Chris Sklaney, we have been looking at the data from our most recent ELGE Report (Dec 2014) and have a few questions to allow us to better understand what we are reading.

I am attaching as a pdf file the data from the Golder report and some figures of 2 parts of the landfill.

There is a flare station data sheet and a Historic LFG report from September 2014 (attached) which indicate that the flow at the flare on 9/3/14 was 168 scfm. The data sheets (6 in all) for the 29 LFG wells show individual flow totals , but these flow totals only add up to 93 scfm. Is there an explanation for the loss of 75 scfm?

Further, there are some of the wells , including the newer ones(LFG's numbering over 23), which were added in 2010/2011 at key points on the landfill to strip VOCs from landfill leachate. Given these flows it appears that they are not being operated to extract VOC laden methane vapors to accomplish this goal. Groundwater quality down-gradient of this LFG locations continues to be degraded.

I have attached maps which will be helpful to understand how important it is for these LFG wells to perform as anticipated.

If one looks at those wells which are intended to remediate VOCs from leachate before it gets to groundwater extraction wells , EW-3 and 4, the flow totals suggest limited ability of these wells as follows:

LFG-1 0 scfm
LFG-2 0 scfm
LFG-3 6 scfm
LFG-33 1 scfm
LFG-35 0 scfm
LFG-36 0 scfm

This flow total is 7 scfm.

It's also noted that the new wells installed after 2010 and numbering above 23 were supposed to focus on VOC removals where VOCs in groundwater had remained constant in spite of the first 5 years of ELGE operation at wells EW-3 and 4. This flow total as reported is falls far short of that goal.

For extraction wells on the south side of the site along Line Rd, EW-6 and 7 the story is much the same:

for	EW-6	EW-7
	LFG-11 1 scfm	LFG-13 2 scfm
	LFG-27 0 scfm	LFG-14 2 scfm
	LFG-30 6 scfm	
	LFG-31 1 scfm	

Flow totals	8 scfm	4 scfm
-------------	--------	--------

Have we missed something in our review of the data set above? To us, the data shows a reduced area of coverage: one far less than the remedial design intended. Bases on our review, these LFG wells are not being operated in a manner to adequately remove the VOCs that continue to contaminate the groundwater at the landfill perimeter. Unfortunately, our 2014 groundwater data (the 2015 data is now being validated) does seem to correlate with groundwater data which continues to show inadequate VOC removal from the leachate mound as it migrates toward the landfill perimeters in the direction of water flow.

We hope that you can help us better understand the data set that we used for this analysis.

Thank you in advance for your help in better understanding this data.

Jack McBurney as agent for the OGDs

Sklaney, Christopher

From: Adams, Frank <frank_adams@golder.com>
Sent: Tuesday, October 06, 2015 9:31 AM
To: Sklaney, Christopher
Cc: Mark DeVine (mdevine@wm.com); Huffman, Joseph; Bunyon, Brenda
Subject: RESPONSE LETTER TO ESI REPORT "ASSESSING PROTECTIVENESS OF THE SITE REMEDY USING AN UPDATED CONCEPTUAL SITE MODEL," FOR KEYSTONE SANITATION LANDFILL
Attachments: ESI Report Response Letter 10-06-15.pdf; 06.01.15 Final CSM.pdf
Follow Up Flag: Follow up
Flag Status: Completed
Categories: Keystone

Good morning Chris:

Please see our response to the report entitled "Assessing Protectiveness of the Site Remedy Using an Updated Conceptual Site Model, Keystone Sanitation Landfill Superfund Site, Adams County, Union Township, Pennsylvania," prepared by Environmental Standards, Inc. (ESI), dated June 1, 2015 (attached for your convenience).

Also, can you please forward to us the Fourth Five-Year Review for Keystone, per our discussion on September 17, 2015?

Please contact me or Mark Devine (603-929-5436 or mdevine@wm.com) with any questions.

Best regards,

Frank

Frank T. Adams, P.E. | Practice Leader | Golder Associates Inc.
200 Century Parkway, Suite C, Mt. Laurel, New Jersey, USA 08054
T: +1 (856) 793-2005 | D: +1 (856) 793-2005 Ext 34432 | F: +1 (856) 793-2006 | C: +1 (215) 570-3205 | E: frank_adams@golder.com | www.golder.com

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Please consider the environment before printing this email.

-----Original Message-----

From: Sklaney, Christopher [mailto:sklaney.christopher@epa.gov]
Sent: Thursday, July 23, 2015 8:06 AM

To: Devine, Mark
Subject: FW: Keystone- a follow up to our recent call

Mark - Good morning. I received the attached review from Jack early last month and am just getting around to taking a look at it.

I would be interested in WM's view of some of the OGDs' interpretations presented in the evaluation. Do you think you and/or Frank will have a chance to review and provide me some thoughts?

Thanks - Chris

Christopher Sklaney
Remedial Project Manager
U.S. EPA Region 3
Office of Superfund Site Remediation
1650 Arch Street (3HS21)
Philadelphia, PA 19103
215-814-3198 | office

-----Original Message-----

From: Jack McBurney [mailto:jackburn@demaximis.com]
Sent: Sunday, June 28, 2015 8:22 PM
To: Sklaney, Christopher
Subject: Keystone- a follow up to our recent call

Chris,

I met with the OGDs' representatives on June 25, 2015, and they agreed that you should send a copy of Environmental Standards' June 1, 2015 Assessment of the Protectiveness of the Site Remedy to Frank Adams and Mark DeVine, and request that they prepare comments on the Report.

I have attached a copy of the Report to this email for your convenience. In addition, the OGDs' representatives also endorsed your suggestion to schedule a meeting with the OGDs' technical representatives and Waste Management's technical representatives as soon as possible, while giving Frank and Mark time to prepare comments before the meeting.

We think that for any meeting to be productive, the O/O's need to be prepared to specifically address our growing concerns with the inadequacy of the landfill cover, and with their inability to find leachate at the monitoring points while needing to haul it away for disposal since its quantity is too great for the flare to handle. Perhaps a sample of this condensate might be a simple first step to better understand why the groundwater contamination has not gotten any better for at least 5 years. This was certainly not the intent of the design basis of the ELGE remedy as described in the design documents.

The OGDs' technical representatives will be available to meet at EPA on August 25, 2015; however, we will be glad to arrange an earlier date.

Thanks for your attention to this important matter,

Jack

Sklaney, Christopher

From: Adams, Frank <frank_adams@golder.com>
Sent: Tuesday, October 13, 2015 4:26 PM
To: Sklaney, Christopher
Cc: Mark DeVine (mdevine@wm.com)
Subject: RE: FW: RESPONSE LETTER TO ESI REPORT "ASSESSING PROTECTIVENESS OF THE SITE REMEDY USING AN UPDATED CONCEPTUAL SITE MODEL," FOR KEYSTONE SANITATION LANDFILL

Follow Up Flag: Follow up
Flag Status: Completed

Categories: Keystone

Thanks Chris. I will discuss with Mark and we will get back to you. Also - I reiterate Jack's request to get a copy of the latest 5-Year Review.

Frank

Frank T. Adams, P.E. | Practice Leader | Golder Associates Inc.
200 Century Parkway, Suite C, Mt. Laurel, New Jersey, USA 08054
T: +1 (856) 793-2005 | D: +1 (856) 793-2005 Ext 34432 | F: +1 (856) 793-2006 | C: +1 (215) 570-3205 | E: frank_adams@golder.com | www.golder.com

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Please consider the environment before printing this email.

-----Original Message-----

From: Sklaney, Christopher [mailto:sklaney.christopher@epa.gov]
Sent: Tuesday, October 13, 2015 4:10 PM
To: Mark DeVine (mdevine@wm.com); Adams, Frank
Subject: FW: FW: RESPONSE LETTER TO ESI REPORT "ASSESSING PROTECTIVENESS OF THE SITE REMEDY USING AN UPDATED CONCEPTUAL SITE MODEL," FOR KEYSTONE SANITATION LANDFILL

Mark/Frank - Please see the message from Jack below. Also, I would like to get together as a group either in person or remotely to see if we can come to some modest resolution in regard to some leachate questions. I believe Jack is going to propose some dates.

I view such a meeting as a targeted discussion designed to answer or move toward answering some specific questions.

Thanks and hope all is well - Chris

Christopher Sklaney
Remedial Project Manager
U.S. EPA Region 3
Office of Superfund Site Remediation
1650 Arch Street (3HS21)
Philadelphia, PA 19103
215-814-3198 | office

-----Original Message-----

From: Jack McBurney [mailto:JACKBURN@demaximis.com]
Sent: Tuesday, October 13, 2015 3:54 PM
To: Sklaney, Christopher <sklaney.christopher@epa.gov>
Subject: Re: FW: RESPONSE LETTER TO ESI REPORT "ASSESSING PROTECTIVENESS OF THE SITE REMEDY USING AN UPDATED CONCEPTUAL SITE MODEL," FOR KEYSTONE SANITATION LANDFILL

Chris:

My clients have reviewed your e-mail and agree that a small group (e.g., Gerry Kirkpatrick, Ken Swider and I) should meet with you, Frank Adams, and Mark DeVine to discuss data needs. We agree that the focus should be on trying to find leachate and determine its quality. I will send you some proposed meeting dates for November.

With that in mind, I'd like to reiterate the GMP locations that should be sampled for leachate (this was in my September 23 e-mail to Frank on which I copied you). These locations are: GMP-15, 17, 18, 20, 24, and 25. I'd also like to know if there is liquid in GMP-19 and 22. You may recall that Waste Management used GMP-22 as an extraction well for about a year before the new wells were added in 2010/2011.

I expect the data obtained from these samples will help us understand the leachate issue. Please feel free to forward these recommendations to Frank and Mark. When you get an opportunity, would you forward me a copy of the 2015 Fourth Five Year Review?

Thanks,

Jack

Sklaney, Christopher

From: Devine, Mark <mdevine@wm.com>
Sent: Friday, October 16, 2015 12:58 PM
To: Sklaney, Christopher
Subject: RE: FW: RESPONSE LETTER TO ESI REPORT "ASSESSING PROTECTIVENESS OF THE SITE REMEDY USING AN UPDATED CONCEPTUAL SITE MODEL," FOR KEYSTONE SANITATION LANDFILL

Follow Up Flag: Follow up
Flag Status: Completed

Good Afternoon Chris:

Received your voice message - nothing urgent, following up on your email and some other items.

I will call you early next week,

Mark

-----Original Message-----

From: Sklaney, Christopher [mailto:sklaney.christopher@epa.gov]
Sent: Tuesday, October 13, 2015 4:10 PM
To: Devine, Mark; Frank Adams
Subject: FW: FW: RESPONSE LETTER TO ESI REPORT "ASSESSING PROTECTIVENESS OF THE SITE REMEDY USING AN UPDATED CONCEPTUAL SITE MODEL," FOR KEYSTONE SANITATION LANDFILL

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Jack

Sklaney, Christopher

From: Sklaney, Christopher
Sent: Monday, October 19, 2015 8:53 AM
To: Devine, Mark
Subject: RE: FW: RESPONSE LETTER TO ESI REPORT "ASSESSING PROTECTIVENESS OF THE SITE REMEDY USING AN UPDATED CONCEPTUAL SITE MODEL," FOR KEYSTONE SANITATION LANDFILL

Sounds good, Mark. I'm at the mobile number today and Wednesday ([REDACTED]), and expect to be in the other days.

-----Original Message-----

From: Devine, Mark [mailto:mdevine@wm.com]
Sent: Friday, October 16, 2015 12:58 PM
To: Sklaney, Christopher <sklaney.christopher@epa.gov>
Subject: RE: FW: RESPONSE LETTER TO ESI REPORT "ASSESSING PROTECTIVENESS OF THE SITE REMEDY USING AN UPDATED CONCEPTUAL SITE MODEL," FOR KEYSTONE SANITATION LANDFILL

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